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CLAIMS

1. A polypeptide that suppresses neuronal death associated with Alzheimer's disease having an amino acid sequence of Formula (I):

Pro-Xn_1-(Cys/bXaa)-(Leu/Arg)-Xn_2-Leu-Thr-(Gly/Ser)-Xn_3-Pro　(I)

wherein "Cys/bXaa" indicates Cys or a basic amino acid; "(Leu/Arg)" indicates Leu or Arg; "(Gly/Ser)" indicates Gly or Ser; and Xn_1, Xn_2, and Xn_3 independently indicate arbitrary amino acid sequences not more than 10 residues in length, respectively.

2. A polypeptide according to (a) or (b) shown below:

(a) a polypeptide having an amino acid sequence selected from the group of SEQ ID NOs: 5 to 8, 10, 12, 13, 21 to 24, 26 to 29, 32, 33, 37 to 40, 46, 48, 54, and 60;

(b) a polypeptide that suppresses neuronal death associated with Alzheimer's disease having an amino acid sequence selected from the group consisting of SEQ ID NOs: 5 to 8, 10, 12, 13, 21 to 24, 26 to 29, 32, 33, 37 to 40, 46, 48, 54, and 60, wherein one or more amino acids have been substituted, deleted, inserted, and/or added.

3. The polypeptide of claim 2, which is used to suppress neuronal death.

4. A fusion polypeptide comprising the polypeptide of any of claims 1 to 2 fused with other polypeptides.

5. A DNA encoding the polypeptide of any one of claims 1 to 4.

6. A vector into which the DNA of claim 5 is inserted.

7. A host cell retaining the vector of claim 6.

8. A method for producing the polypeptide of any one of claims 1 to 4, comprising the steps of culturing the host cell of claim 7, and recovering the expressed polypeptide from the host cell or culture supernatant thereof.

9. A method for suppressing neuronal death comprising the step of contacting a neuron with the polypeptide of any one of claims 1 to 4.

10. A method for detecting a cell death suppressing activity of the polypeptide of any one of claims 1 to 4, comprising the steps

of:

(a) inducing cell death in the presence of the polypeptide of any one of claims 1 to 4; and

(b) detecting level of cell death.

5   11. A method for detecting the effect of a chemical compound on neuronal death suppressing activity of a polypeptide of any one of claims 1 to 4, comprising the steps of:

(a) inducing neuronal death in the presence of a test compound and the polypeptide of any one of claims 1 to 4; and

10   (b) detecting the level of neuronal death.

12. A method of screening for a chemical compound that regulates the neuronal death suppressing activity of the polypeptide of any one of claims 1 to 4, comprising the steps of:

(a) inducing neuronal death in the presence of a test sample
15   and the polypeptide of any one of claims 1 to 4;

(b) detecting the level of neuronal death; and

(c) selecting the compound that enhances or suppresses neuronal death.

13. A pharmaceutical composition comprising as the effective
20   component the polypeptide of any one of claims 1 to 4.

14. The pharmaceutical composition of claim 13, wherein said composition is a neuronal death suppressant.

15. The pharmaceutical composition of claim 13, which is used to prevent or treat diseases that are accompanied by
25   neurodegeneration.

16. The pharmaceutical composition of claim 13, which is used to prevent or treat Alzheimer's disease.

17. An antibody that binds to the polypeptide of any one of claims 1 to 3.

30   18. A DNA for detecting or manipulating DNA encoding the polypeptide of any one of claims 1 to 4, wherein the DNA comprises at least 15 nucleotides that are complementary to a DNA consisting of the nucleotide sequence of SEQ ID NO: 4 or to a complementary strand thereof.

35   19. A method of screening for a chemical compound that binds to the polypeptide of any one of claims 1 to 4, comprising the steps

of:

      (a) contacting a test sample with the polypeptide of any one of claims 1 to 4;

      (b) detecting the binding activity between the test sample and the polypeptide; and

      (c) selecting the compound that has the activity to bind to the polypeptide.